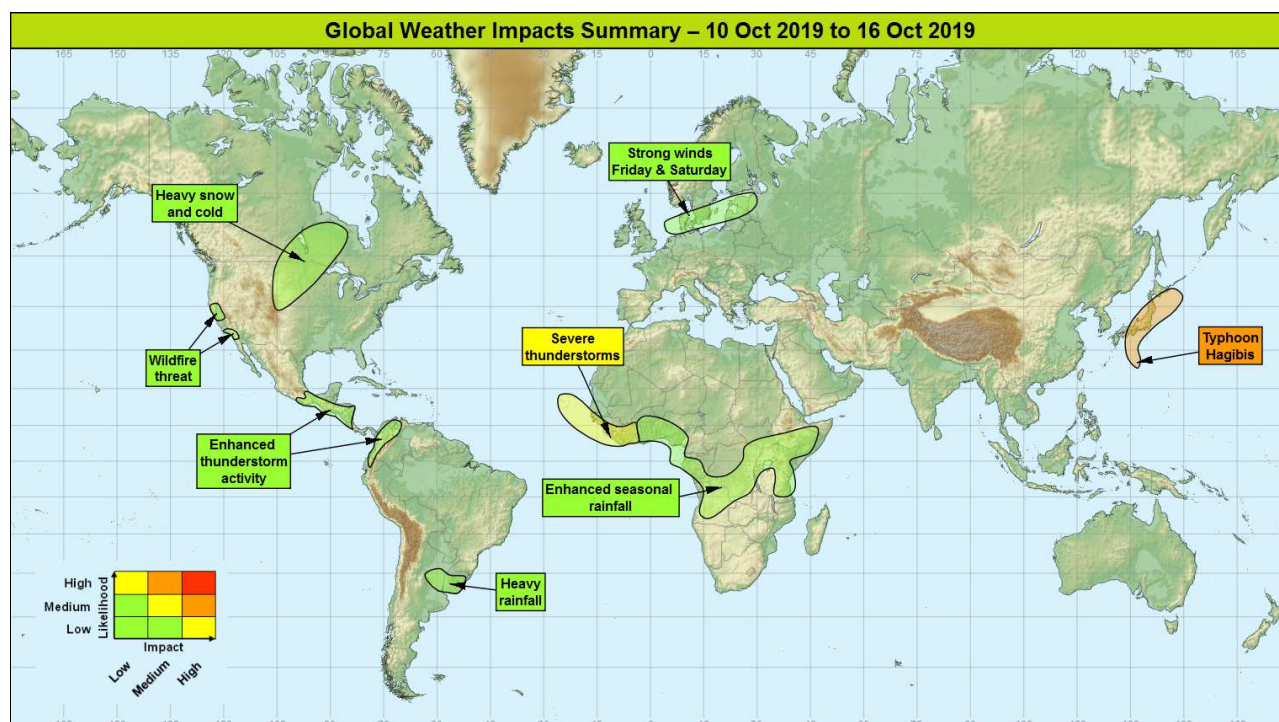


Global Weather Impacts – Thursday 10th to Wednesday 16th October 2019

Issued on Thursday 10th October 2019

HEADLINES

- Typhoon Hagibis will bring significant impacts across Japan this weekend.
- Heavy monsoon rainfall continues across portions of equatorial Africa.



DISCUSSION

Tropical Cyclones

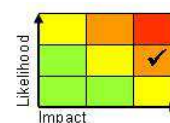
Typhoon Hagibis (Western North Pacific)

Weather

Hagibis was located around 750 miles south of Tokyo on Thursday morning with estimated 10 minute maximum sustained winds of 115 mph with gusts of 160 mph. Hagibis is expected to continue moving northwest today before turning northeastwards towards mainland Japan on Friday, with an increasing likelihood of landfall along the southeast Honshu coast, close to Tokyo on Saturday. Whilst some weakening is expected before landfall, it is still expected to be a very strong typhoon with sustained winds of around 95 mph with gusts of 135 mph at landfall. Additionally, Hagibis is expected to bring very heavy rain along its path with a wide area of 150-300 mm locally up to 450 mm. This represents more than twice the average October rainfall for the region, with this falling within a 24-36hr period.

Discussion

Hagibis largely maintained its identity as a large and very strong typhoon through Wednesday. As Hagibis moves further north, it should encounter increasing vertical shear, as well as slightly cooling sea surface temperatures, and land interaction from Japan. Although these combined with possible further eye-wall replacement cycles should lead to a slow weakening of the storm as it approaches Japan. However the same shear (indicative of baroclinic processes) will mean exceptional rainfall will be produced across a wide area on the northwest flank of the system.



This forecast may be amended at any time

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Expected Impacts

There is a high likelihood of flash flooding, large scale river flooding lasting up to a week, landslides (where terrain is steep), damaging winds and coastal flooding from a significant storm surge. With many of these impacts expected in and around the Tokyo area. Impacts could be exacerbated with a large number of tourists in this area due to the ongoing Rugby World Cup and the Formula One Japanese Grand Prix.

Europe

Denmark, southern Sweden and states bordering the Baltic Sea

Weather

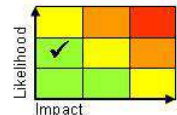
A swathe of strong winds will run across Denmark and southern Sweden later on Friday, and then states bordering the Baltic Sea on Saturday. This will bring severe gales across marine areas with wind gusts reaching 50-60 mph over land, short spell of heavy rain will accompany the winds, but this unlikely to be disruptive.

Discussion

A frontal wave will be engaged by a shortwave upper trough as it crosses the North Sea on Friday and will begin to develop into a potent area of low pressure. Gradient wind speeds to the south of the circulation will increase up to 80mph, bringing strong mean winds speeds, and the potential for very strong gusts.

Expected Impacts

Strong winds will likely disrupt transport across the region (air, sea, road and rail). In addition it will likely lead to disruption of some utilities.



North America

Northern Rocky Mountains and High Plains

Weather

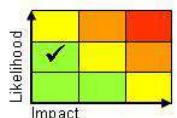
A strong cold front is now moving southeast across the central Rockies bringing temperatures 15-20 °C below average across the region. Some record minimum temperatures are possible. Heavy snow is expected to accompany this change, with historic amounts (for the time of year) in excess of 30-60 cm possible across North Dakota by the weekend. Strong and gusty winds could add to the difficult conditions.

Discussion

A continuation of the trough-ridge pattern across the USA will maintain a strong contrast in temperatures with a renewed plunge of Arctic air across central Canada into portions of northern USA. Along the strong baroclinic zone, a mixture of precipitation types is expected, with snow falling in the cold air on the western flank, whilst further heavy rain with embedded thunder is expected in the warm air extruded north from the Southern Plains.

Expected Impacts

Similar to that seen last week, some transport and utilities disruption is likely in the region.



Parts of California

Weather

A critical, locally extreme, wildfire threat is expected over the next couple of days, including in heavily-populated parts of southern California, particularly where vegetation is unusually dry and humidity levels drop very low. Strong Santa Ana winds are forecast to gust in excess of 50 to 60 mph, which would allow rapid spread of any fires that do start.

Discussion

The strengthening surface pressure gradient between the Great Basin and the California coast will result in strong downslope/offshore winds through Thursday and Friday. Combined with RH down as low as 5-15% in places, and extremely dry vegetation to provide the fuel, some areas of extremely critical fire conditions have been highlighted by the NOAA SPC in a 3,300 square-mile area (population 1.4 million) covering parts of Los Angeles, Ventura and San Bernadino counties in southern California on Thursday and Friday.



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Expected Impacts

Potential for damage or destruction of man-made structures should any fires start in urban areas. Disruption to transport and utilities is possible. Reduced air quality from airborne smoke. As a safety precaution/fire prevention electricity will continue to be turned off for around one million customers over the following few days.

Central America and Caribbean

Parts of Central America, northwest Colombia and Ecuador

Weather

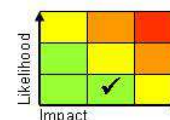
Shower and thunderstorm activity is expected across the tropical Pacific Ocean coastline, maintaining the possibility of locally heavy downpours producing 50-75 mm of rainfall in a few hours. The largest cumulative rainfall totals are expected to be across portions northwest Colombia which has already been impacted by flooding in the past week.

Discussion

A series of tropical waves will be supportive of enhanced convection across Central America.

Expected Impacts

Increased risk of flash flooding with landslides also more likely in areas of steeply sided terrain. Further river flooding is possible, especially in parts of northern and western Colombia.



South America

Colombia and Ecuador – See *Central America and Caribbean* section.

Parts of Uruguay, northeast Argentina and far south of Brazil

Weather

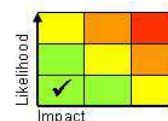
Outbreaks of rain with the potential for thunderstorm activity is expected through the weekend and into the early part of next week before easing. Locally heavy downpours could bring 50-100 mm in one day, with the wettest areas perhaps seeing 150-200 mm in a couple of days.

Discussion

A frontal zone is expected to be active over the region from Saturday, before lifting northwards and weakening towards mid next week. There is the additional potential for the moist subtropical plume to its north to destabilise and allow development of severe thunderstorms with a risk of hail.

Expected Impacts

Localised flash flooding, isolated hail/lightning damage, some disruption to transport and utilities possible.



Africa

Parts of West Africa

Weather

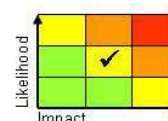
Shower and thunderstorm activity is expected to be more frequent than normal over the next 7 days. Severe thunderstorms will tend to bring 30-50 mm of rain within a few hours in places and where they become more organised could produce up to 100 mm. Through the week the wettest areas could see 250-300 mm of rain.

Discussion

Whilst the West African Monsoon is slowly withdrawing, AEW activity will continue to enhance thunderstorms activity in this area with a consistent signal for positive rainfall anomalies from NWP. This comes at a time when river levels are approaching an annual maximum and is therefore when flooding impacts are considered most likely. Toward the end of the week, the areas of deep convection could get as far west as the Cabo Verde, impacting routings through the islands.

Expected Impacts

Increased likelihood of flash and river flooding along with land/mudslides in areas of more steeply-sided terrain. Antecedent conditions contributing to increased sensitivity.



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Parts of East and Central Africa
Weather

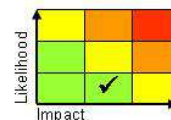
The rainy season is now underway and whilst heavy showers and thunderstorms are typical in these areas, activity is likely to be heavier than usual in parts of this region over the coming week. Severe thunderstorms will tend to bring 30-50 mm of rain within a few hours in places and where they become more organised could produce up to 80 mm. Through the week the wettest areas could see 200-250 mm of rain.

Discussion

A strong positive Indian Ocean Dipole event is now underway. This is likely responsible for the signal for above average rainfall in these areas over the coming week. Based on the strength of the positive IOD event this could lead to above average rainfall in these areas for the next 2 to 3 months which may gradually make impacts more likely.

Expected Impacts

Increased likelihood of flash flooding along with land/mudslides in areas of more steeply-sided terrain.

**Middle East**

Nil.

Asia

Japan – See *Tropical Cyclones* section.

Australasia

Nil.

Additional Information**Indian Subcontinent**

The Indian Meteorological Department on Wednesday announced the commencement of the withdrawal of the Southwest Monsoon from parts of Punjab, Haryana and north Rajasthan, the latest ever commencement. With conditions becoming more favourable, a rapid withdrawal towards the nearer climatology is expected to take place over the next few days. The 2019 Summer Monsoon (June to September) has been the third wettest on record (back to 1901), and the wettest since 1994. September was the wettest September across India in 102 years.

Issued at: 100750 UTC **Meteorologists:** Laura Ellam / Nick Silkstone

Global Guidance Unit

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